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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/315,810	05/21/1999	PHILIP A. CHOU	MCS-068-99	6971
27662	7590	01/18/2005	EXAMINER	
LYON & HARR, LLP 300 ESPLANADE DRIVE, SUITE 800 OXNARD, CA 93036			LY, ANH VU H	
			ART UNIT	PAPER NUMBER
			2667	

DATE MAILED: 01/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/315,810

Applicant(s)

CHOU ET AL. 

Examiner

Anh-Vu H Ly

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4,7,8,11-14,17,18,21-24,27 and 28 is/are rejected.
- 7) ☒ Claim(s) 5,6,9,10,15,16,19,20,25,26,29 and 30 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 May 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Claim Objections*

1. Claims 3, 7, 12-13, 19, and 29 are objected to because of the following informalities:

With respect to claim 3, in line 4 "a one" should be changed to -one- .

With respect to claim 7, in line 20, "the source layer" lacks antecedent basis.

With respect to claims 12 and 13, in line 1, "the program module" lacks clear antecedent basis.

With respect to claims 19 and 29, in line 1, "the receiving program module" lacks antecedent basis.

Applicant is requested to review and clarify other pending claims for similar ambiguities.

Appropriate correction is required.

### *Double Patenting*

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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2. Claims 7-8, 17-18, and 27-28 are rejected under the judicially created doctrine of double patenting over claims 11-12, 31-32, and 51-52 of U. S. Patent No. 6,594,798 B1 since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows: a process, a computer-readable memory, and a system for multicasting real-time media over a heterogeneous packet network comprising steps of forming series of source data streams and for each source data stream, creating at least one error correction information, multicasting source data streams and error correction streams to the receivers, and reconstructing the media signal from the source data streams and error correction streams.

Furthermore, there is no apparent reason why applicant was prevented from presenting claims corresponding to those of the instant application during prosecution of the application which matured into a patent. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 7-8, 11-14, 17-18, 21-24, and 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ammar et al (US Patent No. 6,215,766 B1) in view of Tsunoda (US Pub 2003/0005387 A1).

With respect to claims 1, 3, 7, 11, 13, 17, 21, 23, and 27, Ammar discloses in Figs. 1A-1B, a receiver-driven multicast communication system for providing hierarchical data flow rate control of a video signal transmitted through a network to a plurality of receivers (a receiver-driven layered multicast of real-time media over a heterogeneous packet network to a plurality of receivers). The video signal contains layers of data and, in particular, a base layer and various enhancement layers which are arranged according to a hierarchy such that the base layer is necessary to obtain the video information, a first enhancement layer can be received and decoded along with the base layer, a second enhancement layer can be received and decoded with the base layer, etc... (real-time media is transmitted over the network in multiple streams of packetized source data forming hierarchical layers of information). Ammar does not disclose producing at least one stream of packetized error correction information for at least one of the streams of the packetized source data, wherein each error correction stream comprises parity packets encoded from packets of the source data which have been subjected to a linear transform, said linear transform producing a series of parity packets which can be employed by a receiver to assist in the recovery of lost source data packets using a reverse transform and multicasting each stream of packetized error correction information to receivers to allow each receiver to recover packets of source data lost during transmission. Tsunoda discloses in Fig. 14, an error correction scheme in a multicast communication system wherein a plurality of redundant packets are generated along with the information packets and multicasted to a group of receivers to assist receivers in recovering lost packets. Tsunoda discloses on page 4, 56<sup>th</sup>-63<sup>rd</sup> paragraphs, equations need to be performed to generate code words (redundant packets) to be transmitted by the sender to the receivers. It would have been obvious to one having ordinary skill in the art at

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the time the invention was made to include the features of generating and multicasting redundant packets in Ammar's system, as suggested by Tsunoda, to assist receivers in recovering lost packets.

With respect to claims 2, 12, and 22, Ammar discloses in Fig. 1A, a receiver-driven multicast communication system. Ammar does not disclose applying a FEC encoding technique to each source data stream. Tsunoda discloses in Fig. 7, a FEC encoding technique is applied to the information data. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include FEC encoding technique in Ammar's system, as suggested by Tsunoda, to generate error correction packets.

With respect to claims 4, 14, and 24, Ammar discloses in Fig. 1A, a receiver-driven multicast communication system. Ammar does not disclose incorporating error correction information in each error correction stream associated with the same source data stream which makes the streams redundant, said redundant streams making it possible for a receiver to employ more than one error correction stream and obtained a desired amount of error correction information needed to replace packets in an associated source data stream that were lost during the transmission even if some of the error correction stream packets themselves are lost in transmission. Tsunoda discloses in Fig. 14, an error correction scheme in a multicast communication system wherein a plurality of redundant packets are generated along with each information packet and multicasted to a group of receivers to assist receivers in recovering lost packets. It would have been obvious to one having ordinary skill in the art at the time the

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invention was made to include the features of generating and multicasting redundant packets in Ammar's system, as suggested by Tsunoda, to assist receivers in recovering lost packets.

With respect to claims 8, 18, and 28, Ammar discloses in Fig. 1A, a receiver-driven multicast communication system. Ammar does not disclose steps of partitioning the source data streams into data blocks, applying a FEC encoding to the chosen data block to produce n-k parity packets, assigning each parity packet to a different error correction stream, and repeating the steps for each data block. Tsunoda discloses on page 4, 56<sup>th</sup>-63<sup>rd</sup> paragraphs, equations need to be performed to generate code words (redundant packets) to be transmitted by the sender to the receivers. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the features of generating and multicasting redundant packets in Ammar's system, as suggested by Tsunoda, to assist receivers in recovering lost packets.

#### ***Allowable Subject Matter***

4. Claims 5-6, 9-10, 15-16, 19-20, 25-26, and 29-30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chou et al (US Patent No. 6,532,562 B1) discloses receiver-driven layered error correction multicast over heterogeneous packet networks.

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Chou et al (US Patent No. 6,470,469 B1) discloses a reconstruction of missing coefficients of over complete linear transforms using projections onto convex sets.


Chou et al (US Patent No. 6,460,153 B1) discloses apparatus and method for unequal error protection in multiple description coding using over complete expansions.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh-Vu H Ly whose telephone number is 571-272-3175. The examiner can normally be reached on Monday-Friday 7:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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